# United States Patent [19]

**Saxe et al.**

[11] **4,113,362**

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[54] **LIGHT VALVE, LIGHT VALVE SUSPENSION MATERIALS AND SUSPENSION THEREFOR**


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**Related U.S. Application Data**

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[51] **Int. Cl.**[2] ..... **G02B 5/23**

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[58] **Field of Search** ..... 350/150, 355, 356, 362



[56] **References Cited**

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[57] **ABSTRACT**

A light valve including suspending materials which have an ability to prevent or substantially retard agglomeration of the particles in suspension during the application of a voltage to the suspension. The materials include aromatic esters which are derivable from aromatic alcohols, such as phenyl acetate, cresyl acetate, para-butylphenyl acetate, para-nonylphenyl acetate, and structurally similar compounds. The suspension also includes, as an additional suspending material, a polymer such as a branched polymeric coating material to coat the particles in suspension and act in combination with the aromatic ester suspending materials to prevent or substantially reduce agglomeration of the particles when a voltage is applied to the suspension. Other suspending materials such as non-aqueous liquids or solids may also form part of the suspending medium of this invention.


**29 Claims, 4 Drawing Figures**